

**REMARKS/ARGUMENTS**

The Examiner is thanked for his review of the application.

Claims 1-13 remain in this application. Claims 1, 2, 4 and 6 have been amended.

In the Final Office Action, dated December 17, 2004, the Examiner rejected Claims 1, 4, under 35 U.S.C. 102(a,e) as being anticipated by Ouimet et al. (US 6,094,641).

Regarding Claim 1, the Examiner stated that, “Ouimet discloses: an econometric engine for modeling sales as a function of price to create a sales model, (Col. 4, lines 35-44 [demand model gives predicted sales of an item based on price]); a financial model engine for modeling costs to create a cost model, (col. 4, lines 52-53, [pricing model], which includes an activity-based costing module, Col 2, lines 1-12, including visibility, and taking the promotional cost into account when modifying the demand model, in this case, the module is inherent with Ouimet since Ouimet’s system is computer-implemented and in order to create models, a module is necessary in a computerized system); and optimization engine coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine, wherein the optimization engine generates the preferred set of prices, (Col. 5, lines 45-48, [using fitted, modified demand model to determine price that will maximize profits {optimization}]).”

Regarding Claim 4, the Examiner stated that “Ouimet ‘641 discloses: creating a sales model, (Col. 4, lines 35-44, [demand model gives predicted sales of an item based on price]); creating a cost model, (col. 4, lines 52-53, [pricing model], which includes activity-based costing, Col. 2, lines 1-12, including visibility, and taking the promotional cost into account when modifying the demand model); and generating the preferred set of prices for the plurality of products based on the sales model and cost model, (Col. 5, lines 45-48, [using fitted, modified demand model to determining price that will maximize profits, {optimization}]).”

Claim 1 has been amended to recite “a cost model which includes an activity-based costing module configured to receive variable costs and fixed costs.” Similarly, Claim 4 has been amended to recite “a cost model which includes activity-based costing, the activity-based costing including fixed costs and variable costs.” Support can be found in the specification at, for example, page 75, line 19 to page 76 line 3, “the preferred embodiment of the invention, the financial model engine 108 comprises an activity-based costing module … [which] computes variable and fixed costs for products at specific store locations” (emphasis added).

The present invention teaches that “financial model engine 108 should be flexible enough to provide a cost model for different procedures. These different costs may have variable cost components where the cost of an item is a function of the amount of sales of the item and fixed cost components where the cost of an item is not a function of the amount of sales of the item” (see specification page 74, line 22 to page 75, line 3) (emphasis added). “In the preferred embodiment of the inventions, the stores may only need to supply labor costs of the stores and distribution centers, cost of capital, size of an item and number of items in a case to allow a cost modeling” (page 75, lines 9-12). This invention is advantageous because by using “these estimations, costs may be more easily calculated on a store level … [and] allows the maximization of profits for each store (see page 75, lines 18-19 of specification).

Ouimet ‘641 teaches the concept of “visibility which is defined as the amount by which the demand for an item is increased when a given promotion is run. Associated with each promotion is a visibility, which in general can be determined from empirical study, and a promotion cost, i.e., the amount of money spent on the promotion. By including the visibility in the demand model and also taking into account the promotional cost, the pricing and promotional decisions can be optimized together such that an optimized maximum profit can be obtained” (Col. 2, lines 3-12).

Promotional cost as defined by Ouimet ‘641 refers to “the amount of money spent on the promotion”. In contrast, the activity-based costing as recited in Claims 1, 4, 6, includes “fixed cost components” where the cost of an item is not a function of the amount of sales of the item, such as the cost of capital (page 75, line 11). These fixed costs occur whether or not the product is promoted. Therefore, promotional cost is

inadequate in quantifying the true cost and therefore the true profitability. In addition, as recited by Claims 1, 4, 6, activity-based costing also includes variable costs. Variable costs associated with an item depend on its sales volumes. The variable costs depend on factors like the labor costs, the stocking method, the shipment mode, the inventory holding costs, packaging etc. These calculations of activity-based costing go above and beyond the promotional costs as disclosed by Ouimet '641.

Hence, as amended, independent Claims 1 and 4 are allowable over Oiumet '641. Applicant further submits that Claims 2, 3 which depend from Claim 1, and Claim 5 which depend from Claim 4, are also patentable due to their dependence from their respective patentable parent Claims 1 and 4. Furthermore, these dependent claims are also novel, non-obvious and patentable because of the additional patentable features recited in addition to the patentable combination of their respective parent claim.

In the Final Office Action the Examiner also rejected Claims 2, 3 under 35 U.S.C. 103(a) stating that they are "unpatentable over Ouimet et al (US 6,094,641) as applied to claim 1 above, and further in view of Ouimet et al. (US 6,308,162)."

Regarding Claim 2, the Examiner has stated that "Ouimet '641 discloses: a price calculator connected to the rule tool, the financial model engine, and the econometric engine, wherein the price calculator determines the preferred set of prices based on rule parameters, the sales model, and the cost model, (Col. 8, lines 18-20, [shows calculating], col. 5, lines 50-55 and 60-65, [see equations listed where calculating is done via the equations])."

Examiner further stated, "Ouimet '641 fails to disclose a rule tool, which stores a plurality of rule parameters, but does disclose a routine in col. 6, lines 6-8, where rules must be present in order to successfully process the routine. However, Ouimet '162 discloses the following: a rule tool, which stores a plurality of rule parameters, (col. 1, lines 30-34, [rule based approach]). Ouimet '162 discloses this limitation in an analogous art for the purpose of showing that rules are used in an approach to optimize models. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to utilize a rule tool with the motivation of going through the process of optimizing models to determine prices in a logical manner."

As amended, Claim 2 now recites the optimization engine comprises a business rule tool, which stores a plurality of rule parameters, and a price calculator connected to the business rule tool, the financial model engine, and the econometric engine, wherein the price calculator determines the preferred set of prices based on rule parameters, the sales model, and the cost model.

In column 6, lines 8-16, Ouimet '641 discloses simulated annealing as a method for optimization and indicates that it is appropriate since the demand models may be coupled, discontinuous, nonlinear equations. Ouimet '641 does not teach nor suggest the presence of business rules and constraints that limit what prices are admissible. Rather Ouimet '641 appears to focus on the nature of the objective function that is based on the demand model, and not on the constraints placed on the prices that are admissible.

Ouimet '162 (col. 1, lines 30-47) mentions "rule-based" pricing systems to contrast them with model based pricing systems. The Ouimet '162 rule-based systems do not optimize the decision to maximize an objective such as profit or revenue, but instead appears to activate a set of pre-defined rules to generate an action.

The business rule tool of the present invention includes a mechanism by which business rules that govern strategy can be included in the optimization. These business rules ensure that the preferred set of prices actually conforms to the business strategy, and this capability significantly enhances model based pricing systems by making their recommendations practical and actionable. Pages 103-107 of the specification as filed, discloses several business rules and their implementation within an optimization framework. These business rules include rules that govern maximum price change, price differentials between products based on their brands or sizes, line price constraints and average or weighted average price movement restrictions. These constraints limit the sets of prices that are deemed acceptable by a pricing analyst or a category manager and the optimization routines must deliver prices that conform to them. Rule based systems, on the other hand, specify a recipe for responding to specific stimuli like competitor price changes etc.; they specify rule of action rather than rules that define business strategy.

The Examiner has rejected Claims 6, 7, 8, 10, 11, 12 under 35 U.S.C. 103(a) as being unpatentable over Ouimet '641, and further in view of Hartman '208. In addition, claim 9 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet '641, and further in view of Hartman '208 and Ouimet '893. Claim 13 has also been rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet '641, and further in view of Hartman '208 and Ouimet '162.

Regarding Claim 6, the Examiner has stated that "Ouimet et al. [discloses:] an econometric engine for modeling sales as a function of price to create a sales model, (Col. 4, lines 35-44, [demand model give predicted sales of an item based on price]); a financial model engine for modeling costs to create a cost model, (col. 4, lines 52-53, [pricing model], which includes an activity-based costing module, Col. 2, lines 1-12, including visibility, and taking the promotional cost into account when modifying the demand model, in this case, the module is inherent with Ouimet since Ouimet's system is computer-implemented and in order to create models, a module is necessary in a computerized system); and an optimization engine coupled to the econometric engine and financial model engine to receive input from the econometric engine and financial model engine, wherein the optimization engine generates the preferred set of prices, (Col. 5, lines 45-48, [using fitted, modified demand model to determine price that will maximize profits {optimization}])."

The Examiner stated further, "Ouimet et al. '641 fails to disclose based on Bayesian modeling, but does disclose utilizing demand models to optimize prices in the abstract, lines 1-5. However, Hartman et al. discloses: Based on Bayesian modeling, (Abstract, lines 1-4, [shows Bayesian modeling used for optimization]). Hartman et al. discloses this limitation in an analogous art for the purpose of showing that Bayesian modeling can be used to determine optimal prices. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to utilize Bayesian modeling with the motivation of processing a particular optimization technique to determine prices."

Claim 6 has been amended to include the limitation that the cost model “includes an activity-based costing module configured to receive variable costs and fixed costs” and is now allowable over Ouimet ‘641, Hartman ‘208, Ouimet ‘873 and Ouimet ‘162, alone and in combination, for at least the reasons discussed above for claims 1 and 4. Applicant further submits that Claims 7-13 which depend from Claim 6 are also patentable due to their dependence from their patentable parent Claim 6. Furthermore, these dependent claims are also novel, nonobvious and patentable because of the additional patentable features recited in addition to the patentable combination of parent Claim 6.

In sum, Claims 1-13 remain in the application. Claims 1, 2, 4, 6 have been amended and are now believed to be allowable. Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. The commissioner is authorized to charge any fees that may be due to our Deposit Account No. 50-2766 (Order No. DEM1P001). Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number 925-570-8198.

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Respectfully submitted,



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